OPERATOR'S MANUAL 65178X-XXX-B

INCLUDING: SERVICE KITS, TROUBLESHOOTING, PARTS LIST, DISASSEMBLY & REASSEMBLY.

RELEASED: 2-12-93
REVISED: 1-11-08
(REV. F)

HIGH PRESSURE MATERIAL REGULATOR

READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

SERVICE KITS

- Use only genuine ARO® replacement parts to assure compatible pressure rating and longest service life.
- Order 637219-XXX-B rebuild kit (see chart below) for general repair of the regulator. This includes a diaphragm kit and a valve kit.
- Fluid diaphragm kit 61962-1 can be ordered separately (see page 4).
- Valve kit can be ordered separately (see page 4).

REBUILD KIT DESCRIPTION CHART

637219 - X X 1 - B

Type
0 - Downstream
1 - Back Pressure

Ball Size
A - 0.1875"
B - 0.250"
C - 0.500"

Ball & Seat Material
1 - Tungsten Carbide

Rebuild Kit Selection
Example: Model # 651780-A3B-B
Rebuild Kit # 637219-0A1-B

SPECIFICATIONS

Model Series		65178X-XXX-B
Type	651780-XXX-B	Downstream
	651781-XXX-B	Back Pressure
Material Inlet		see model chart
Material Outlet		see model chart
Dimensional Data		see figure 10

PERFORMANCE DATA

Regulated Pressure Range	see model chart
Maximum Regulated Pressure	see model chart
Maximum Inlet Pressure	
651780-XXA-B	3000 p.s.i. (206.9 bar)
651780-XXB-B, -XXC-B, -XXR-B	6000 p.s.i. (413.8 bar)
651781-XXX-B	3000 p.s.i. (206.9 bar)
Maximum Temperature Limits	0° to 200° F (-18° to 93° C)

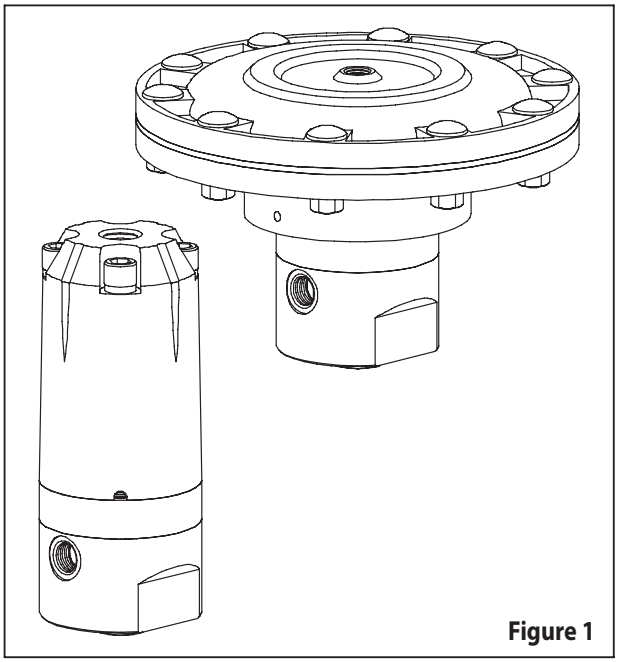


Figure 1

MODEL DESCRIPTION CHART

65178 X - X X X - B

Type
0 - Downstream
1 - Back Pressure

Port Size, (Ball Size)
A - 3/8 - 18 N.P.T.F. (0.1875")
B - 3/8 - 18 N.P.T.F. (0.2500")
C - 3/4 - 14 N.P.T.F. (0.500")

Body Material, (Seat Material)
1 - Carbon Steel (Tungsten Carbide)
3 - 316 Stainless Steel (Tungsten Carbide)

Regulated / Maximum Pressure Range
A - 400 - 1250 p.s.i. (27.6 - 86.2 bar)
B - 100 - 3000 p.s.i. (6.9 - 206.9 bar) Back Pressure models
- 1000 - 3000 p.s.i. (69 - 206.9 bar) -AXB and -BXB Downstream models
- 750 - 2500 p.s.i. (51.7 - 172.4 bar) -CXB Downstream models
C - 2000 - 5000 p.s.i. (137.9 - 344.8 bar)
R - 400 - 5000 p.s.i. (27.6 - 344.8 bar) -AXR and -BXR models
- 750 - 5000 p.s.i. (51.7 - 344.8 bar) -CXR models

INGERSOLL RAND COMPANY LTD
P.O. BOX 151 • ONE ARO CENTER • BRYAN, OHIO 43506-0151
(800) 276-4658 • FAX (800) 266-7016
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OPERATING AND SAFETY PRECAUTIONS





- **Read and heed all warnings, cautions and safety precautions before operation of this unit.**
- **Be certain anyone operating this equipment or fluid system has been trained to use it safely.**

⚠WARNING HIGH PRESSURE DEVICE. Improper usage of this equipment could result in serious injury. The possibility of injection into the flesh is a potential hazard. Wear approved safety glasses or face shield and other equipment as needed to prevent injury. Never allow any part of the human body to come in front of or in contact with the material outlet, the tip, or the material outlet of the dispensing device. An injection injury can be serious. If an injection accident should occur, it is very important that you contact a qualified physician for immediate treatment.

⚠WARNING MISAPPLICATION HAZARD. Do not use the regulator when the fluid inlet pressure is too high for the designed operating range. Excessive inlet pressure can cause a lock-out situation. Lock-out occurs when the inlet pressure is beyond the regulator's spring capacity. The valve will not open. Attempts to disassemble components while in a lock-out condition may result in injury.

⚠WARNING COMPONENT RUPTURE. Do not operate regulator at an inlet pressure greater than specified. To avoid possible damage or personal injury do not operate this unit at pressure higher than the stated operating range as it appears on the model plate.

⚠WARNING DISASSEMBLY HAZARD. Do not disassemble this regulator when it is under pressure. Relieve pressure in the pumping system before attempting service or disassembly procedures. Disconnect air lines and carefully bleed pressure off the system. Be certain the system is not maintaining pressure due to a material restriction in the hose, line, dispensing device, or the spray or extrusion tip. Failure to relieve pressure both up stream and downstream may result in an injury upon disassembly.

⚠WARNING BONNET REMOVAL HAZARD. Do not attempt to remove the four bonnet retaining bolts without first relieving the tension on the main spring. Failure to relieve tension could result in an accident upon disassembly.

⚠WARNING PREVENT FIRES. Keep solvents away from heat, sparks or open flame. Keep containers closed when not in use. When pumping, flushing or recirculating volatile solvents, be certain the area is adequately ventilated.

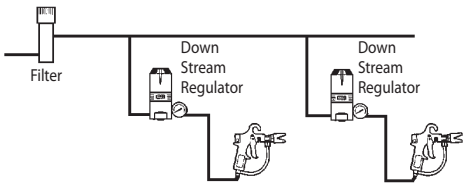
⚠ CAUTION FLUSH SUPPLY LINE. Before installing fluid regulator blow the supply lines clear and flush to remove contaminates.

⚠WARNING	=	Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.
⚠ CAUTION	=	Hazards or unsafe practices which could result in minor personal injury, product or property damage.
NOTICE	=	Important installation, operation or maintenance information.

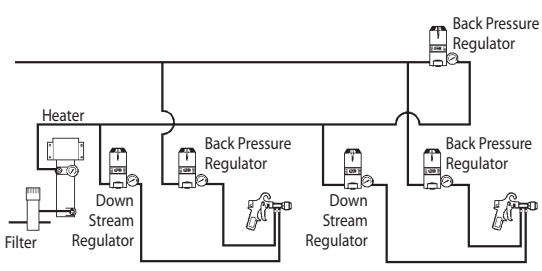
INSTALLATION

- Refer to the typical installation view which best applies.
- Locate the regulator as close as possible to the spray gun or dispensing device for best pressure control.
- Identify the regulator INLET / OUTLET (flow direction). The regulator is marked with an arrow on the body base (refer to figure 10).
- When flexible fluid lines are used, mount the regulator securely using the (2) 1/4" - 20 threaded holes in the base (see figure 10).
- Flush supply line before installing regulator.
- Remote models require maximum 100 p.s.i. (6.9 bar) signal pressure. Start with a signal pressure as low as possible and adjust upward until proper flow is reached.

TYPICAL DEAD END SYSTEM



TYPICAL RECIRCULATING SYSTEM



TYPICAL REMOTE SYSTEM

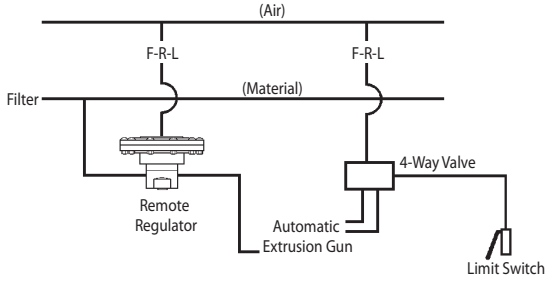


Figure 2

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• 271™ and 680™ are trademarks of Henkel Loctite Corporation • Hytrel® is a registered trademark of the DuPont Company •
• Perma-lok® is a registered trademark of National Starch and Chemical Corporation •

OPERATING INSTRUCTIONS

Refer to pages 4 and 5 for parts reference.

- To **INCREASE** outlet pressure, turn the (6) adjusting screw **CLOCKWISE** (see figure 3).
- To **DECREASE** outlet pressure, turn the (6) adjusting screw **COUNTERCLOCKWISE** (see figure 3).

NOTE: Part Y106-109 Allen wrench is included to make necessary pressure adjustments.

FLUSH-OUT FEATURE FOR DOWNSTREAM MODELS ONLY.
See figure 4.

- Flush the regulator periodically. The interval may vary depending on the amount and type of material used.
- By using a wrench and "flush-out" plug (provided), the operator is able to move the entire spindle downward and force the ball off the seat which should purge the regulator of particle build-up.

NOTE: The flush-out procedure temporarily overrides the adjusted pressure. It will not, however, affect the regulator setting when flushing operation is completed.

FLUSH-OUT PROCEDURE

1. Remove spray gun or dispensing device, this will allow any particles to clear from the system.
2. Insert (21) flush-out plug and turn clockwise until it touches the (4) washer (see view on page 5).
3. Turn up to two turns maximum. This will allow the ball to unseat and pass material at free flow (unregulated). **DO NOT** attempt to turn further to avoid damage.
4. Turn the plug back to its original position.

SEAT PLUG FEATURE

The (47) plug, located at the base of the regulator, can be removed for access to the ball and seat assembly for cleaning and inspection for wear. With this feature, the regulator does not have to be unthreaded from the pumping system. Be certain to relieve system pressure (See "WARNING: DISASSEMBLY HAZARD").

MAINTENANCE

- Disassembly should be done on a clean work bench and use clean cloths.
- If replacement parts are necessary, refer to the parts list and drawings on pages 4 and 5.
- Upon reassembly, lubricate parts and use Loctite where indicated. Follow the torque specifications as shown.
- Service kits are available, which include parts typically needed for an overhaul.
- Keep good records of service activity and include the regulator in a preventive maintenance program.
- Certain "Smart Parts" are indicated with a "□" in the parts list, these parts should be available for fast repair and reduction of down time.

View of Spring Adjustment Procedure.

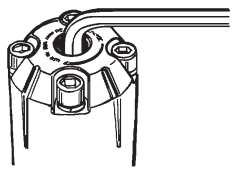


Figure 3

View of Flush-Out Plug.

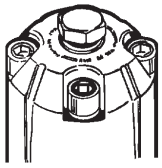


Figure 4

TROUBLE SHOOTING

No fluid pressure.

- Check for damaged or worn diaphragms.
- Look for possible obstruction by hardened material or foreign matter, periodically use the regulator "Flush-out" feature (Downstream models only). Use a fluid filter upstream from the regulator.

Pressure creeps above the setting when system is dead ended and in a static (no flow) mode.

- Check for dirty seat and clean as appropriate.
- Check for worn or damaged seat and replace if necessary.

Outlet pressure drops below setting.

- Check pump for proper operation and check for possible leakage problems.
- Look for a clogged supply line problem, flush the supply line.

Fluid leakage from spring housing.

- Check the bonnet hold-down screws and the plate hold down screws and re-torque as needed.
- Check for damaged diaphragm, replace as needed.

Regulator will not function, even when dispensing device is opened.

- Check for possible obstruction in the fluid line.
- Inlet pressure is too high, causing a "Lock-Out" situation. Read "WARNING: MISAPPLICATION HAZARD" found on page 2.

Typical Downstream Regulator Cross Section View Showing Major Components.

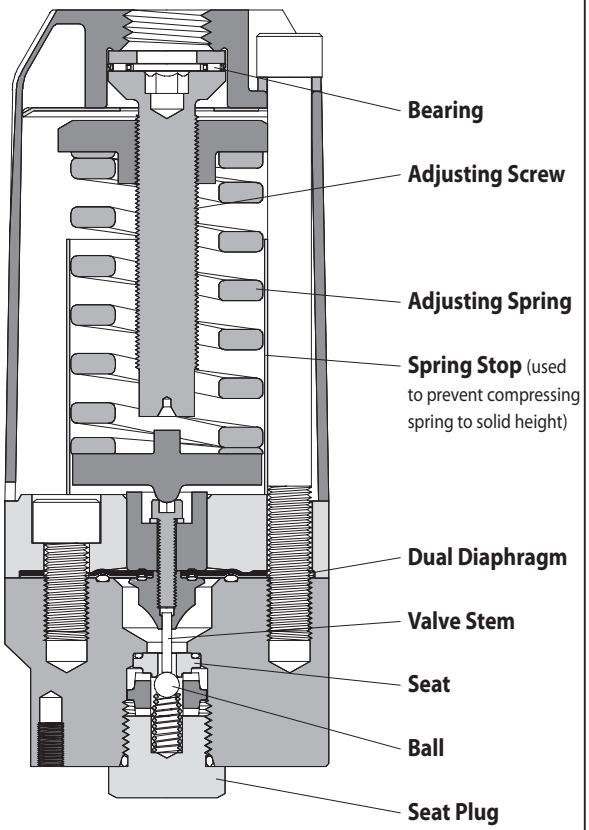


Figure 5

PARTS LIST / 65178X-XXX-B

65178X-XXX-B COMMON PARTS

Item	Description (size)	(Qty)	Part No.	[Mtl]
1	Housing - 651780-XXX-B (downstream)	(1)	93534-1 ☆	[A]
	651781-XXX-B (back pressure)	(1)	93534-2 ☆	[A]
2	Bolt (7/16" - 20 x 5-1/2")	(4)	93487-1	[C]
3	Washer (7/16" i.d.)	(4)	Y79-716	[C]
4	Washer (1.162" o.d. x 0 .125" thick)	(1)	93485-1	[C]
5	Thrust Bearing (1.173" o.d.)	(1)	93484-1	[C]
6	Adjusting Screw (5/8" - 24, left hand)	(1)	93486-1	[C]
7	Plate	(1)	93818	[SS]
8	Adjusting Nut	(1)	93481-1	[C]
9	Spring - 65178X-XXA-B (green, 100 - 1250 in. lbs)	(1)	93477-1	[C]
	65178X-XXB-B (red, 1000 - 3000 in. lbs)	(1)	93478-1	[C]
	65178X-XXC-B (yellow, 2000 - 5000 in. lbs)	(1)	93026	[C]
10	Screw (#10 - 32 x 7/8")	(1)	Y191-107	[C]
11	Lockwasher (0.196" i.d.)	(1)	Y14-10	[C]
12	Small Plate	(1)	93820	[C]
13	Piston	(1)	93821	[C]

Item	Description (size)	(Qty)	Part No.	[Mtl]
14	Screw (7/16" - 20 x 7/8")	(2)	Y157-778	[C]
15	Plate	(1)	93532-1	[C]
✓ 16	Diaphragm (0.048" thick, cream)	(1)	93498-1	[H]
✓ 17	Diaphragm (0.020" thick, white)	(1)	93497-1	[T]
✓ 18	"O" Ring (3/32" x 1-3/8" o.d.)	(1)	Y328-123	[T]
✓ 19	"O" Ring (1/16" x 9/16" o.d.)	(1)	Y328-13	[T]
⊕ 20	3/8" Allen Wrench (not shown)	(1)	Y106-109	[C]
⊕ 21	Flush-Out Plug (not shown) used on models 651780-XXX-B only	(1)	93819	[C]
22	Spring Stop	(1)	96348-5	[SS]
✓	Indicates parts included in the diaphragm service kit		61962-1	
⊕	Except models 651780-XXR-B			

MATERIAL CODE

[A] = Aluminum
[C] = Carbon Steel
[H] - Hytrel®
[SS] = Stainless Steel
[T] = PTFE

651780-XXX-B DOWNSTREAM REGULATORS

Flow / Size	-XXX	Port Size N.P.T.F.	Ball Size	• Rebuild Kit	☐ Valve Stem (40)	☐ Valve Kit (41, 42, 43, 44) (see below)	☐ Flow Tube (45)	"O" Ring (46)	☐ Base Plug Ass'y (47) ○	Base (48)	Pipe Plug (52) (2 req'd)
Standard	-A1X	3/8	0.1875"	637219-0A1-B	92985	62169	93489-1	93492-1	62168	93540-1	-----
	-A3X	3/8	0.1875"	637219-0A1-B	92985	62169	93489-1	93492-1	62168	93541-1	-----
Hi-Flow	-B1X	3/8	0.250"	637219-0B1-B	92985	62237	93489-1	93492-1	62168	93540-1	-----
	-B3X	3/8	0.250"	637219-0B1-B	92985	62237	93489-1	93492-1	62168	93541-1	-----
Mastic	-C1X	3/4	0.500"	637219-0C1-B	93778	61963-1	93490-1	93491-1	61956-1	93536-1	Y17-51-N
	-C3X	3/4	0.500"	637219-0C1-B	93778	61963-1	93490-1	93491-1	61957-1	93537-1	Y17-51-S

651781-XXX-B BACK PRESSURE REGULATORS

Flow / Size	-XXX	Port Size N.P.T.F.	Ball Size	• Rebuild Kit	☐ Valve Stem (40)	☐ Valve Kit (41, 42) (see below)	☐ Flow Tube (45)	"O" Ring (46)	☐ Base Plug Ass'y (47) ○	Base (48)	Pipe Plug (52)
Hi-Flow	-B1X	3/8	0.250"	637219-1B1-B	93565-1	61985-1	93489-1	93492-1	62168	93540-1	-----
	-B3X	3/8	0.250"	637219-1B1-B	93565-1	61985-1	93489-1	93492-1	62168	93541-1	-----
Mastic	-C1X	3/4	0.500"	637219-1C1-B	93518-1	61967-1	93490-1	93491-1	61956-1	93536-1	Y17-51-N
	-C3X	3/4	0.500"	637219-1C1-B	93518-1	61967-1	93490-1	93491-1	61957-1	93537-1	Y17-51-S

DOWNSTREAM VALVE KITS

Valve Kit	(41) "O" Ring	(42) Seat	(43) Ball	(44) Spring
61963-1	Y328-19	93522-1	93510-1	93480-1
62169	Y328-14	93885	93508-1	93881
62237	Y328-14	93558-1	93561-1	93881

BACK PRESSURE VALVE KITS

Valve Kit	(41) "O" Ring	(42) Seat
61967-1	Y328-19	93522-1
61985-1	Y328-14	93558-1

- **NOTE: 637219-XXX-B rebuild kits include both 61962-1 diaphragm service kit and valve kit shown in the chart.**

☐ **"Smart parts", keep these items on hand in addition to the service kits for fast repair and reduction of down time.**

○ **Includes item 46.**

☆ **See note on page 7.**

☞ ASSEMBLY TORQUE REQUIREMENTS ☜

NOTE: DO NOT OVERTIGHTEN FASTENERS.

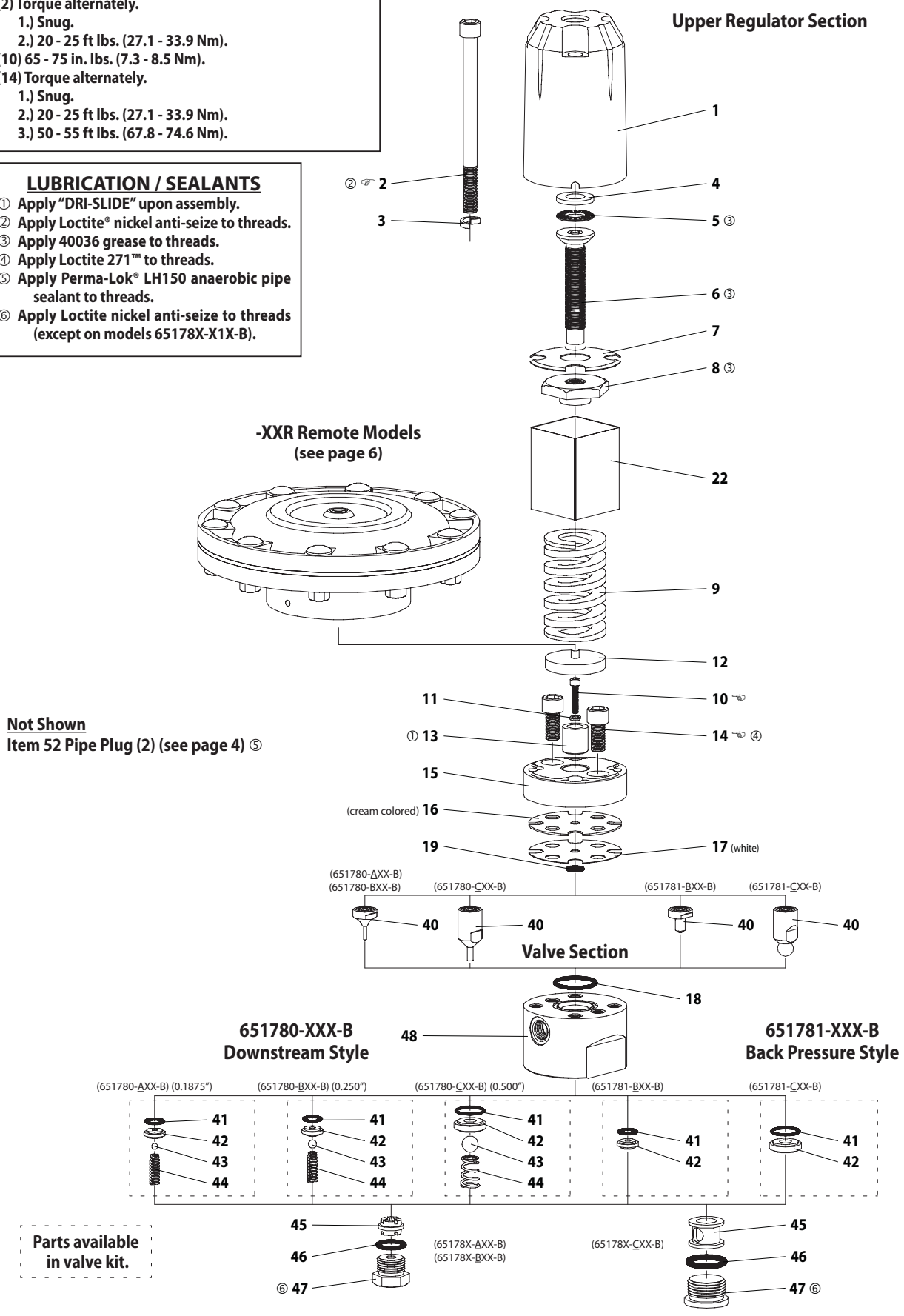
(2) Torque alternately.
- **1.) Snug.**
- **2.) 20 - 25 ft lbs. (27.1 - 33.9 Nm).**

(10) 65 - 75 in. lbs. (7.3 - 8.5 Nm).

(14) Torque alternately.
- **1.) Snug.**
- **2.) 20 - 25 ft lbs. (27.1 - 33.9 Nm).**
- **3.) 50 - 55 ft lbs. (67.8 - 74.6 Nm).**

LUBRICATION / SEALANTS

① **Apply "DRI-SLIDE" upon assembly.**
② **Apply Loctite® nickel anti-seize to threads.**
③ **Apply 40036 grease to threads.**
④ **Apply Loctite 271™ to threads.**
⑤ **Apply Perma-Lok® LH150 anaerobic pipe sealant to threads.**
⑥ **Apply Loctite nickel anti-seize to threads (except on models 65178X-X1X-B).**



Not Shown
Item 52 Pipe Plug (2) (see page 4) ⑤

Figure 6

PARTS LIST

651780-XXR-B REMOTE MODELS

Item	Description (size)	(Qty)	Part No.	[Mtl]
25	Ribbed Bolt (3/8" - 16 x 1-1/2")	(10)	93750-1	[C]
26	Air Cap	(1)	93753-1	[A]
□ 27	Diaphragm	(1)	93754-1	[N]
28	Plate	(1)	94573	[C]
□ 29	Piston	(1)	93751-1	[C]
30	Air Cap	(1)	93753-2	[A]
31	Nut (3/8" - 16)	(10)	Y12-6-C	[C]
32	Cap Screw (7/16" - 20 x 2")	(4)	Y157-76	[C]
33	Adapter	(1)	93752-1	[A]
34	Cap Screw (5/16" - 18 x 1")	(4)	Y99-52	[C]

MATERIAL CODE

[A] = Aluminum [C] = Carbon Steel [N] = Neoprene

☞ ASSEMBLY TORQUE REQUIREMENTS ☜

NOTE: DO NOT OVERTIGHTEN FASTENERS.

(31) Torque in sequence.
1.) Snug.
2.) 20 ft lbs (27.1 Nm).
(32) Torque alternately.
1.) Snug.
2.) 20 - 25 ft lbs (27.1 - 33.9 Nm).
(34) Torque alternately.
1.) Snug.
2.) 10 ft lbs (13.6 Nm).

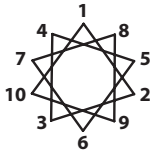


Figure 7

LUBRICATION / SEALANTS

④ **Apply Loctite 242® to threads.**
⑦ **Secure (29) piston to (28) plate with Loctite 680™ Retaining Compound. Apply "DRI-SLIDE" upon reassembly.**

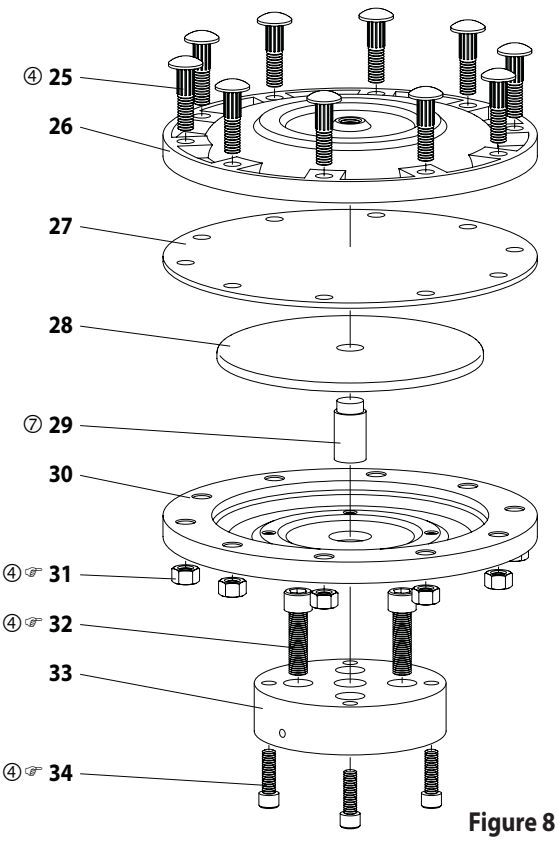


Figure 8

□ **"Smart parts", keep these items on hand in addition to the service kits for fast repair and reduction of down time.**

REGULATOR DISASSEMBLY

(refer to pages 4 and 5)

FOR "WARNINGS", REFER TO "OPERATING AND SAFETY PRECAUTIONS" ON PAGE 2 FOR DETAILS.

BEFORE SERVICING, READ "WARNING: DISASSEMBLY HAZARD." FOUND ON PAGE 2.

TOOLS REQUIRED: Small bench vise, 3/8" Allen wrench (Y106-109 is included), 5/32" Allen wrench, a 9/16" Allen wrench for -CXX-B models, torque wrench and Loctite 242.

NOTE: It is not always necessary to remove the regulator from the fluid line to service or inspect only the valve section.

BEFORE DOING ANY IN-LINE SERVICE, ALL FLUID PRESSURE MUST BE RELIEVED. HEED ALL WARNINGS FOUND ON PAGE 2.

ALLEN WRENCH NOTE: The Y106-109 (3/8") Allen wrench is included and can be used for several functions including: Regulator adjustment (spring type models), removal and assembly of the long bonnet bolts and the short plate bolts.

VALVE SEAT NOTE: Before deciding to order a general repair kit to service the whole regulator, check the easiest things first. Remove and inspect the valve seat for dirt, foreign matter, damage or wear (steps 1 - 3).

DOWNSTREAM STYLE MODELS

1. Remove the (46 / 47) base plug / "O" ring assembly, which will allow removal of the (44) spring, (43) ball, (45) flow tube, (42) seat and (41) "O" ring.

BACK PRESSURE STYLE MODELS

2. Remove the (46 / 47) base plug / "O" ring assembly, which will allow the removal of the (45) flow tube, (42) seat and (41) "O" ring.
3. Inspect the (42) seat for dirt, damage or wear.

READ "WARNING: BONNET REMOVAL HAZARD" FOUND ON PAGE 2.

4. Remove the four (2) long bolts to allow removal of the bonnet / adjusting screw assembly.

NOTE: The (6) adjusting screw, (5) thrust bearing and (4) washer are retained by (7) plate, which is pressed into place. It should not be necessary to disassemble these parts during normal service.

5. Remove the (9) regulator spring and (12) small plate.
6. Remove the (14) bolts.
7. Remove the (15) plate.
8. Remove the stem / diaphragm and piston assembly.
9. Place the stem in a vise, locate and secure on the stem flats provided.
10. Using a 5/32" hex Allen wrench, remove the (10) screw.
11. Remove the (11) lockwasher, (13) piston, two (16, 17) diaphragms and (18 and 19) "O" rings from the (40) valve stem.

REMOTE MODELS (Refer to figure 8)

1. Remove four (34) screws from (30) air cap and separate the diaphragm assembly from the (33) adapter.
2. Disassemble the diaphragm assembly by removing the ten (31) nuts.
3. Separate the two halves to allow inspection of the (27) diaphragm and replace, if necessary.
4. Reassemble in reverse order.

REGULATOR REASSEMBLY

Also refer to parts list and views on pages 4 and 5.

1. Place the (40) stem in a vise. Use the flats provided.
2. Position the (19) "O" ring in the groove.
3. Place the (17) white diaphragm onto the (40) stem center.
4. Place the (16) cream colored diaphragm onto the (40) stem.
5. Place the (13) piston on the assembly.
6. Install the (11) lockwasher and the (10) screw.

NOTE: Make certain the diaphragm holes are in alignment before tightening the (10) screw. Torque to 65 - 75 in. lbs (7.3 - 8.5 Nm).

SERVICE HINT: Use the (14) screw to help align the diaphragm holes.

7. Remove the diaphragm / piston / stem assembly from the vise.

UPPER REGULATOR BODY SECTION REASSEMBLY

☆ NOTE: (from page 4 parts list) If the (1) housing has been removed and disassembled, the (7) plate should be replaced.

8. Place the (48) base in a vise, using the flats.
9. Place the (15) plate over the diaphragm / piston / stem assembly.
10. Apply Loctite 271 to the (14) screw.
11. Install the (14) screws.

NOTE: Tighten the short bolts alternately and evenly.

- Tighten snug.
- Tighten to 20 - 25 ft lbs (27.1 - 33.9 Nm).
- Tighten to 50 - 55 ft lbs (67.8 - 74.6 Nm).

12. Place the (12) plate (ball side down) into the hex of the (10) screw.
13. Place the (9) spring on top of the (12) plate.
14. Place the (22) spring stop over the (9) spring.
15. Place the bonnet / adjusting screw assembly over the spring.
16. Retain the bonnet with the (3) lockwashers and (2) bolts. Tighten alternately until snug, then torque to 20 - 25 ft lbs (27.1 - 33.9 Nm).
17. Place the (18) "O" ring into the groove.
18. Apply "DRI-SLIDE" to the surface of the (13) piston.
19. Install the diaphragm / piston / stem assembly and align with the base hole pattern.
20. Turn the regulator over and vise on flats.

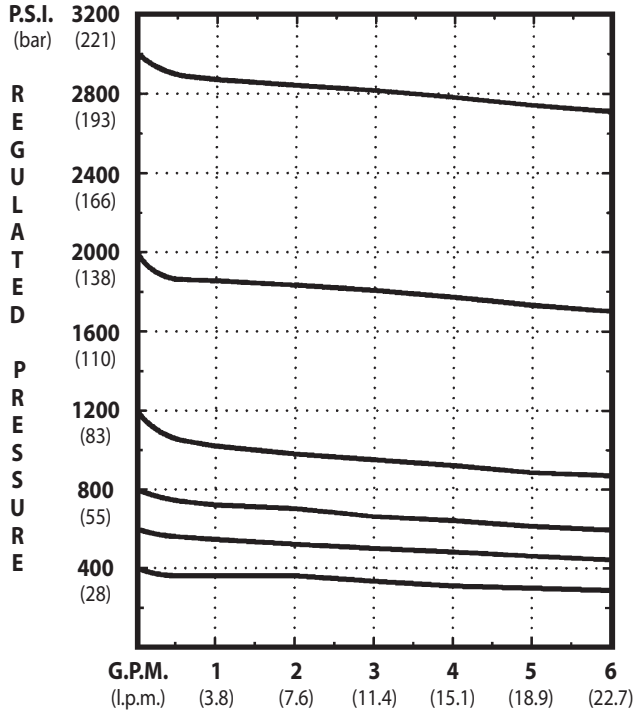
REGULATOR VALVE SECTION REASSEMBLY DOWNSTREAM MODELS

- Install (41) "O" ring.
- Install (42) seat.
- Install the (45) flow tube.
- Install the (43) ball.
- Install the (44) spring with the narrow end against the ball.
- Install the (47) valve plug and "O" ring assembly.
- Tighten until snug.

BACK PRESSURE MODELS

- Install (41) "O" ring.
- Install (42) seat.
- Install the (45) flow tube.
- Install the (47) valve plug and "O" ring assembly.
- Tighten until snug.

PERFORMANCE DATA



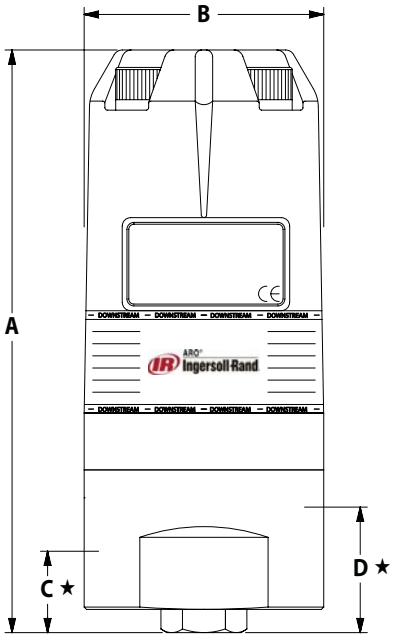
Fluid Flow

Figure 9

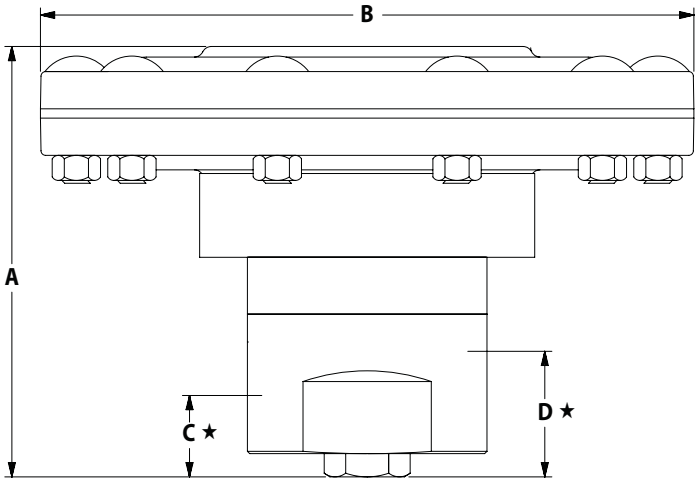
SERVICE NOTE: "DRI-SLIDE", FXR is a commercially available anti-rust lubricant (contains 9% Molybdenum Disulfide) or Molybdenum Disulfide powder with or without light oil carrier.

DIMENSIONAL DATA

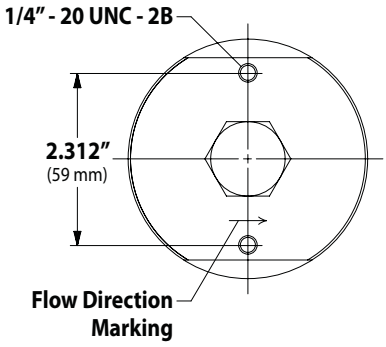
Figure 10



STANDARD STYLE



REMOTE STYLE



BOTTOM VIEW

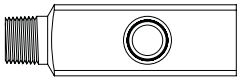
Ref.	-XXA, -XXB Standard Models		-XXR Remote Models	
	-AXX / -BXX	-CXX	-AXX / -BXX	-CXX
A	**7.827"** (198.8 mm)	**8.797"** (223.4 mm)	**5.780"** (146.8 mm)	**6.750"** (171.5 mm)
B	**3.218"** (81.7 mm)	**3.218"** (81.7 mm)	**8.781"** (223.0 mm)	**8.781"** (223.0 mm)
C	**1.093"** (27.8 mm)	**1.219"** (31.0 mm)	**1.093"** (27.8 mm)	**1.219"** (31.0 mm)
D	**1.686"** (42.8 mm)	**2.438"** (61.9 mm)	**1.686"** (42.8 mm)	**2.438"** (61.9 mm)
★	**3/8 - 18 N.P.T.F.**	**3/4 - 14 N.P.T.F.**	**3/8 - 18 N.P.T.F.**	**3/4 - 14 N.P.T.F.**

NOTE:

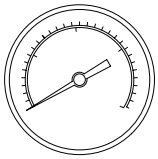
- 651780-XXX-B (downstream models): "C" is the **INLET** port, "D" is the **OUTLET** port.
- 651781-XXX-B (back pressure models): "D" is the **INLET** port, "C" is the **OUTLET** port.

OPTIONAL ACCESSORIES

Models 65178X-AXX-B and 65178X-BXX-B
Gauge and Auxiliary port



92968 Outlet Adapter
3/8 - 18 N.P.T.F. - 1



Rear Mount Gauge

93505-1	**0 - 3000 p.s.i. (0 - 210 bar)**	**Brass**
93506-1	**0 - 3000 p.s.i. (0 - 210 bar)**	**Stainless Steel**
93507-1	**0 - 5000 p.s.i. (0 - 350 bar)**	**Brass**